

**IN THE CLAIMS:**

Please consider the claims as follows:

1. Cancelled
2. Cancelled
3. Cancelled

4. (Currently Amended) In a digital video television communication system having a headend coupled to a two-way communication medium and at least one digital video settop box coupled to said two-way communication medium, said headend transmitting on a plurality of communication channels including first and second in-band video channels and an out-of-band region having at least one out-of-band communication channel, said first in-band video channel having a first plurality of multiplexed digital video channels, said second in-band video channel having a second plurality of multiplexed digital video channels, one of said multiplexed digital video channels in said first in-band video channel associated with an IP connection, a method of operation comprising:

    sending a channel resource request from said settop box to said headend, said channel resource request representing a channel change at said settop box from said one of the multiplexed digital video channels in said first in-band video channel to one of the multiplexed digital video channels in said second in-band video channel, said channel resource request for changing the IP connection association from said one of the multiplexed digital video channels in said first in-band video channel to said one of the multiplexed digital video channels in said second in-band video channel;

    determining whether said second in-band video channel has an available ~~communication channel~~ capacity for transporting IP data of the IP connection in said second in-band video channel using IP over MPEG data packets, wherein

available capacity is determined based on a number of other IP connections supported by said second in-band video channel;

selecting a communication channel at said headend by selecting one of:

said an available communication channel in said second in-band video channel if said second in-band video channel has the available ~~communication channel~~ capacity for transporting the IP data of the IP connection in said second in-band video channel; and

one of the at least one out-of-band communication channel if said second in-band video channel does not have the available ~~communication channel~~ capacity for transporting the IP data of the IP connection in said second in-band video channel;

sending a channel resource confirmation message from said headend to said settop box, said channel resource confirmation message identifying said selected communication channel; and

selecting said selected communication channel at said settop box for receiving the IP data of the IP connection from said headend.

5. (Currently Amended) A method in accordance with claim 4, wherein said selected communication channel is identified in said channel resource confirmation message by a packet ID (PID) ~~for carrying said IP over MPEG data packets on said second in-band video channel.~~

6. (Currently Amended) A method in accordance with claim ~~[[4]]~~ 5, wherein said ~~selected communication channel is identified in said channel resource confirmation message as the out-of-band communication channel in said out-of-band region of said digital video television communication system~~ PID comprises a default value if the one of the at least one out-of-band communication channel is selected.

7. Cancelled

8. Cancelled

9. Cancelled

10. (Currently Amended) In a headend for a digital video television communication system including said headend coupled to a two-way communication medium and at least one digital video settop box coupled to said two-way communication medium, said headend transmitting on a plurality of communication channels including first and second in-band video channels and an out-of-band region having at least one out-of-band communication channel, said first in-band video channel having a first plurality of multiplexed digital video channels, said second in-band video channel having a second plurality of multiplexed digital video channels, one of said multiplexed digital video channels in said first in-band video channel associated with an IP connection, a method of operation comprising:

receiving a channel resource request from said settop box at said headend, said channel resource request representing a channel change at said settop box from said one of the multiplexed digital video channels in said first in-band video channel to one of the multiplexed digital video channels in said second in-band video channel, said channel resource request for changing the IP connection association from said one of the multiplexed digital video channels in said first in-band video channel to said one of the multiplexed digital video channels in said second in-band video channel;

determining whether said second in-band video channel has an available ~~communication channel~~ capacity for transporting IP data of the IP connection in said second in-band video channel using IP over MPEG data packets, wherein available capacity is determined based on a number of other IP connections supported by said second in-band video channel;

selecting a communication channel at said headend by selecting one of:

said an available communication channel in said second in-band video channel if said second in-band video channel has the available

~~communication channel~~ capacity for transporting the IP data of the IP connection in said second in-band video channel; and

one of the at least one out-of-band communication channel if said second in-band video channel does not have the available ~~communication channel~~ capacity for transporting the IP data of the IP connection in said second in-band video channel; and

sending a channel resource confirmation message from said headend towards said settop box, said channel resource confirmation message identifying said selected communication channel.

11. (Currently Amended) A headend method in accordance with claim 10, wherein said selected communication channel is identified in said channel resource confirmation message by a packet ID (PID) ~~for carrying said IP over MPEG data packets on said second in-band video channel.~~

12. (Currently Amended) A headend method in accordance with claim ~~[[10]]~~ 11, wherein said ~~selected communication channel is identified in said channel resource confirmation message as an out-of-band communication channel in said out-of-band region of said digital video television communication system~~ PID comprises a default value if the one of the at least one out-of-band communication channel is selected.

13. Cancelled

14. Cancelled

15. Cancelled

16. (Currently Amended) In a settop box for a digital video television communication system having a headend coupled to a two-way communication medium and said settop box coupled to said two-way communication medium,

said headend transmitting on a plurality of communication channels including first and second in-band video channels and an out-of-band region having at least one out-of-band communication channel, said first in-band video channel having a first plurality of multiplexed digital video channels, said second in-band video channel having a second plurality of multiplexed digital video channels, one of said multiplexed digital video channels in said first in-band video channel associated with an IP connection, a method of operation comprising:

    sending a channel resource request from said settop box towards said headend, said channel resource request representing a channel change at said settop box from said one of the multiplexed digital video channels in said first in-band video channel to one of the multiplexed digital video channels in said second in-band video channel, said channel resource request for changing the IP connection association from said one of the multiplexed digital video channels in said first in-band video channel to said one of the multiplexed digital video channels in said second in-band video channel, wherein said channel resource request is adapted for identifying a selected communication channel at said headend by selecting one of:

        an available communication channel in the second in-band video channel if the second in-band video channel has available capacity for transporting IP data of the IP connection; and

        one of the at least one out-of-band communication channel if the second in-band video channel does not have available capacity for transporting IP data of the IP connection;

wherein available capacity is determined based on a number of other IP connections supported by said second in-band video channel;

    receiving a channel resource confirmation message identifying said selected communication channel; and

    selecting said selected communication channel at said settop box for adapting the settop box to receive the IP data of the IP connection from said headend as IP over MPEG data packets.

17. (Currently Amended) A setup method in accordance with claim 16, wherein said selected communication channel is identified in said channel resource confirmation message by a packet ID (PID) for ~~carrying said IP over MPEG data packets on said second in-band video channel.~~

18. (Currently Amended) A setup method in accordance with claim ~~[[16]] 17~~, wherein said ~~selected communication channel is identified in said channel resource confirmation message as an out-of-band communication channel in said out-of-band region of said digital video communication system~~ PID comprises a default value if the one of the at least one out-of-band communication channel is selected.

19. (Currently Amended) A digital video television communication system, comprising:

a two-way communication medium having a plurality of communication channels including an out-of-band region having at least one out-of-band communication channel and a plurality of in-band video channels, each of the in-band video channels adapted for transporting IP data of an IP connection using a plurality of IP over MPEG data packets, each of said IP over MPEG data packets being identified by a packet ID;

a digital video setup box coupled to said two-way communication medium, said digital video setup box comprising:

a digital video setup transmitter for transmitting a channel resource request on the two-way communication medium in response to a video channel change at said digital video setup box, said channel resource request representing a channel change from a multiplexed digital video channel in a first one of the plurality of in-band video channels to a multiplexed digital video channel in a second one of the plurality of in-band video channels, said channel resource request for changing an association of the IP connection from the first in-band video channel to the second in-band video channel; and

a digital video settop receiver for receiving a channel resource confirmation message identifying a selected communication channel, said selected communication channel comprising one of:

an available communication channel in the second in-band video channel if said second in-band video channel has available capacity for transporting the IP data of the IP connection; or and

one of the at least one out-of-band communication channel if said second in-band video channel does not have the available capacity for transporting the IP data of the IP connection;

wherein available capacity is determined based on a number of other IP connections supported by said second in-band video channel;  
and

a headend coupled to said two-way communication medium, said headend comprising:

a headend receiver for receiving said channel resource request;

and

a headend transmitter for transmitting said channel resource confirmation message to said digital video settop box on said two-way communication medium.

20. (Currently Amended) In a digital video television communication system including a two-way communication medium having a plurality of communication channels including a plurality of in-band video channels, each of the in-band video channels adapted for transporting IP data of an IP connection using a plurality of IP over MPEG data packets, each of said IP over MPEG data packets being identified by a packet ID, and a headend coupled to said two-way communication medium, said headend adapted for generating a channel resource confirmation message on said two-way communication medium responsive to a channel resource request, an apparatus comprising:

a digital video settop box, coupled to said two-way communication medium, said digital video settop box comprising:

a digital video settop transmitter coupled to the two-way communication medium for transmitting the channel resource request on the two-way communication medium in response to a video channel change at said digital video settop box, said channel resource request representing a channel change from a multiplexed digital video channel in a first in-band video channel of the plurality of in-band video channels to a multiplexed digital video channel in a second in-band video channel of the plurality of in-band video channels, said channel resource request for changing an association of the first in-band video channel with the IP connection to an association of the second in-band video channel with the IP connection; and

a digital video settop receiver coupled to said two-way communication system for receiving a channel resource confirmation message identifying a selected communication channel, said selected communication channel comprising one of:

an available communication channel in the second in-band video channel if said second in-band video channel has available capacity for transporting the IP data of the IP connection; or and

an out-of-band communication channel in an out-of-band region of the digital video television communication system if said second in-band video channel does not have the available capacity for transporting the IP data of the IP connection;

wherein available capacity is determined based on a number of other IP connections supported by said second in-band video channel.

21. (Currently Amended) In a digital video television communication system including a settop box coupled to a two-way communication medium having a plurality of communication channels including a plurality of in-band video channels, each of the in-band video channels adapted for transporting IP data of an IP connection using a plurality of IP over MPEG data packets, each of said IP over MPEG data packets being identified by a packet ID, an apparatus comprising:



a headend coupled to said two-way communication medium, said headend comprising:

a headend receiver for receiving a channel resource request from said digital video settop box indicating a video channel change at said digital video settop box, said channel resource request representing a channel change from a multiplexed digital video channel in a first in-band video channel of the plurality of in-band video channels to a multiplexed digital video channel in a second in-band video channel of the plurality of in-band video channels, said channel resource request for changing an association of the first in-band video channel with the IP connection to an association of the second in-band video channel with the IP connection;

a headend selector module coupled to said headend receiver for processing said channel resource request, the headend selector module operable for selecting a communication channel by selecting one of:

an available data communication channel from said second in-band video channel identified in the channel resource request if said second in-band video channel has available capacity for transporting the IP data;  
and

an out-of-band communication channel in an out-of-band region of said digital video television communication system if said second in-band video channel does not have available capacity for transporting the IP data;

wherein available capacity is determined based on a number of other IP connections supported by said second in-band video channel;  
and

a headend transmitter coupled to said headend selector module for transmitting a channel resource confirmation message in response to the channel resource request, wherein the channel resource confirmation message identifies the selected communication channel, the selected communication channel adapted for transporting the IP data from the headend towards the digital video settop box.

22. (Currently Amended) A headend method in accordance with claim 21, wherein said selected communication channel is identified in said channel resource confirmation message by ~~[[a]]~~ said packet ID (PID) for carrying said IP over MPEG data packets on said second in-band video channel.

23. (Currently Amended) A headend method in accordance with claim ~~[[21]]~~ 22, wherein said ~~selected communication channel is identified in said channel resource confirmation message as an out-of-band communication channel in said out-of-band region of said digital video communication system~~ packet ID comprises a default value if the out-of-band communication channel is selected.